

c.—THERAPEUTICS OF THE NERVOUS SYSTEM AND MIND.

CHLORAL.—Dr. Oscar Liebreich, *Lancet* (Am. Repr.), Oct., reckons the normal dose of chloral for simple insomnia at from 1.25 grammes to 2 grammes (— 19.3 to 35.8 grains). Of course there are individual peculiarities; thus, persons who can take a large quantity of alcohol, and are accustomed to its use, require a considerably larger dose, and weak and debilitated persons considerably less. It differs from opium and its alkaloids, in that it does not produce a tolerance, it produces the same effect on the organism after continued use as at first. The dose for continued use varies; for some, one grammie (— 15.4 grains) is enough, for others much more.

The unfortunate accidents that have been reported from the use of moderate doses of chloral, he attributes to impurity of the preparation, and counsels care as regards this point:

E. KAHLE, *Centralblatt f. d. med. Wissenschaft*, publishes the results of experiments performed by him on frogs in Von Wittich's laboratory at Koenigsberg, as follows:

1. Of two equal doses of chloral hydrate, estimated just sufficient to produce narcosis, a moderately acidified solution acted as perfectly, but a little slower than the neutral one.
2. In lethal doses this difference in quickness of action of the acid and neutral solutions was observed. The pulse and respiration were retarded together with, finally, stoppage of the heart in diastole. The heart still reacts to mechanical irritations with a single contraction, for some time after the stoppage.
3. The appearance of narcosis is more rapid after direct introduction of the agent into the blood than after its injection into the lymph sack.
4. Relatively large doses of chloral hydrate (0.2 grammes and over in the frog) injected into the median abdominal vein, or into one lateral vein, cause within a few minutes a stoppage of the heart in rigid systole (the auricle ought to remain dilated in diastole). In spite of this absolute stoppage of the heart the respiration and reflex irritability are perfectly retained until the narcosis is complete.
5. If a solution of chloral hydrate, some 0.15 or over strong, is penciled over the external unwounded skin of the frog, narcosis and, later, a stoppage of the heart results. If, then, a solution of the strength of 0.2 is injected into the lateral vein, the heart passes by awkward and arhythmic contractions from the diastolic stoppage into a condition of systole.
6. If the heart is stopped in diastole by the application of a minimal quantity of muscarine on the outer integument of the frog, and afterwards the above mentioned chloral solution of 0.2 is injected into a lateral vein, the diastolic stoppage changes to arrest in systole.

7. By penciling the outer integument of the frog with a half grammie of a solution of atropia (1.0 : 100.0) a quickening of the cardiac action is produced (paralysis of the inhibitory centres); if a frog in this condition is treated (penciling on the outer skin) with a chloral solution, the already atropinized heart is found to be much more resistant to the action of the chloral than is that of the frog still unoperated upon. The arrest in diastole in this case appears much later.

The author is still engaged upon further experiments in this direction.

DRACONTIUM.—Dr. H. C. Wood, Jr., *N. Y. Med. Record*, Dec. 15, has been testing the use of dracontium, or skunk cabbage, in chorea. He uses 60 to 90 drop doses of a tincture of the fresh root three times a day and has had good results.

The effects of the drug, he thinks, are due to some volatile principle contained in the plant. The fresh roots gathered in the fall should be made up at once into a tincture before drying.

CANNABIS INDICA.—Dr. E. C. Seguin, *N. Y. Med. Record*, Dec. 8, 1877, records the use of cannabis indica as a method of treating the disease (not the attacks) known as migraine. The principle of the treatment is to keep the nervous system for a long time under the influence of the remedy, or, in other words, to make use of the "continued dose," as it is called by E. H. Clarke. To adult females he gives one-third of a grain before each meal, increasing the dose after a few weeks to one-half a grain. Males can generally commence with one-half a grain, and it may be increased to three-fourths of a grain after two or three weeks. The doses must be taken with the utmost regularity, and for a considerable period. As a rule no immediate appreciable effect is noticed, though he has seen some giddiness, etc., from an initial dose of one-half grain *ter die*.

As regards results of this treatment, Dr. Seguin thinks one-half of his cases have been relieved, which, considering the usual persistency of this disease may be considered as very fair success. He does not hesitate to say that, in his opinion, cannabis is nearly as effective in migraine as the bromides are in epilepsy. "Both *may* cure," he says, "and both *do* bring about remarkable interruptions in the series of attacks; both must be employed in the continuous dose. Cannabis in migraine is less effectual than the bromides in epilepsy, but, on the other hand, it is superior to them in not producing unpleasant or injurious effects."

He considers the action of cannabis in migraine analogous to that of belladonna in epilepsy, which is still often effective, though not so fashionable since the introduction of the more generally efficacious bromide treatment. He still employs it in combination with the bromides in some cases, and with advantage. He concludes by drawing a parallel between the actions of the two drugs, and the respective diseases in which they are thus useful.

1. Migraine and epilepsy are both nervous affections characterized by the occurrence of periodical attacks; the attacks, themselves, in both diseases are largely made up of vaso-motor disturbances; in both it is probable

that the medulla oblongata is primarily or secondarily diseased; both affections occur in the same families, and may be present at successive times in the same patient. The late Dr. Anstie has expressed the opinion that the two diseases are akin, and states that migraine may develop into genuine epilepsy. I have in my private case-books cases illustrating this proposition, and I am now treating a physician who states that after nocturnal epilepsy appeared, before beginning bromide treatment, his old migraine grew less frequent and less severe.

2. As regards the two remedies, cannabis and belladonna, both are intoxicants and delirants; both dilate the pupil; and it is probable that the action of both upon the central nervous system, when administered in the shape of the continued dose, is very similar.

JABORANDI IN HYDROPHOBIA.—Dr. J. G. S. Coghill, *Brit. Med. Journal*, Jan. 5, recommends on *a priori* grounds the use of jaborandi in hydrophobia. He thinks that by the action of this drug stimulating the skin and the salivary apparatus, and the function of the salivary organs which is almost suspended by the disease, could be restored, one of the most embarrassing of the symptoms relieved and the excretion of the poison materially aided.

A NEW TREATMENT OF FACIAL PARALYSIS.—M. Mascarel, *Bull. Gen. de Thérap.*, proposes the following treatment for facial paralysis *a frigore*. The first day he inserts a platinum needle to the depth of a centimetre or a centimetre and a half in the direction of the stylo-mastoid foramen, and another horizontally into the superior fibres of the orbicularis, and a mild current is allowed to pass for ten, eighteen or twenty minutes. Contractions excessively strong are produced in the orbicularis and sometimes the lids close.

The second day, the same operation is performed, but the needle is inserted below the orbit.

On the third, fourth, fifth and sixth days the facial needle is successively plunged into the muscles which seem most refractory, the other being always kept near the stylo-mastoid foramen. After seven or eight days of this treatment the facial paralysis disappears. Three cases are narrated as illustrating the success of this treatment.

THE TREATMENT OF EPILEPSY.—We take the following from *New Remedies*, Feb., 1878: A stated meeting of the Therapeutical Society was held at the rooms of the New York Academy of Medicine, on the 8th inst., and the Committee on Neurotics (Dr. E. C. Seguin, Chairman,) reported on the results of the use of potassium chloride in epilepsy; that in the cases in private practice, college clinics, and in the Hospital for Epileptics and Paralytics, where it had been tried after observing the effects of potassium bromide and placebos, it had appeared to be practically valueless in doses of 8 grains three times a day and 24 grains at bedtime.

The following synopsis of the tables reported shows the comparative influence of these remedies, and no treatment at all.

6 Males.....	{	3 months with placebos, 170 convulsions.
		3 " " pot. brom., 51 "

8 Females.....	{	1 month with placebos, 149 convulsions.
	{	1 " " pot. brom., 43 "
8 Males.....	{	1 month with pot. chlor., 115 convulsions.
	{	1 " " pot. brom., 22 "
18 Females.....	{	1 month with pot. chlor., 410 convulsions.
	{	1 " " pot. brom., 285 "

The committee also made a preliminary report on the use of a mixture of bromides and chloral in epilepsy, the following formula having been used in most instances :

B Potassii Bromidi.....	ʒ i.
Chloral hydratis.....	ʒ ss.
Aqua.....	fl ʒ vii.—M.

Teaspoonful doses three times daily.

The committee based their conclusions upon reports from the following named gentlemen : Dr. A. McLane Hamilton (13 cases), Dr. McBride (4 cases), Dr. J. H. Emerson (2 cases), Dr. Shaw of Brooklyn (6 or 8 cases), Dr. E. C. Seguin (2 cases). The reporters were united in the opinion that this combination enabled them to dispense with about two-thirds of the quantity of potassium bromide that had been required to produce an arrest of the paroxysm ; that the intervals were longer, the attacks diminished in severity and the accidents of bromism, to a great extent, avoided. The patients became more cheerful and lively, and presented in every way a better condition than when under treatment by the bromide alone. A discussion followed, in which Drs. E. R. Squibb, Wm. M. Thomson, E. C. Seguin, Hanks and Castle participated. The former gave his experience in the treatment of four cases of epilepsy. He had yet to hear of any case in which an explosion of *grand mal* had occurred while the patient was in a condition of bromism. In his cases the accidents of bromism had been avoided by giving the medicines in rapidly increasing doses until decided bromism had been produced, when it was suspended altogether for a few days, to be given in the same manner, and again suspended on the accession of bromism. Dr. Seguin could not think that it would ever be proper to omit the use of the bromide for a single dose, and Dr. Thomson said he insisted upon his patients making up their minds to continue the use of bromide uninterruptedly for at least eighteen months, or it would be useless to attempt the treatment at all. Drs. Hanks and Castle had employed a mixture of potassium bromide and chloral in other affections of the nervous system besides epilepsy, with the experience that the combination was more effective than a corresponding quantity of either remedy would have been.

THE TREATMENT OF GENERAL PARALYSIS.—L. Meyer, *Berl. klin. Wochenschr.*, No. 21, 1877 (abstr. in *Revue des Sci. Méd.*) :

On the idea that general paralysis is a chronic encephalitis, beginning in the cortex of the anterior and convex portions of the hemispheres, or in the meninges, Meyer was led to try a derivative method of treatment which has afforded him good results. It is nothing else than a revival of a method applied by Jacobi in chronic mental diseases.

Over the great fontanelle he shaves a space on the scalp equal to one-half the hand. In the centre of this space he rubs a circle as large as a thaler

with antimonial ointment. He repeats this operation at the end of twenty-four hours, using an amount of ointment the size of a pea and a little piece of linen. After the first application of the ointment, which should be energetic, the strongly reddened surface is, with a compress smeared with the same. The second friction is managed with much care, so as to save the skin in place. Generally these two frictions are sufficient, if not, the third a small quantity of the ointment is applied without friction, and a piece of linen to which it is applied may be left on the surface.

In the course of three or four days the tumefaction of the scalp extends to the forehead and even to the face, more rarely to the occiput or the nucha. The pustular eruption is insignificant, the pustules are small, concrete and dry rapidly.

After the swelling has become intense it may be covered with warm poultices. In a few days the suppuration is so ample that it completely separates the integuments which slough off spontaneously. Too resistant adherances are destroyed with caustics or the scissors. To reach this point usually fifteen days are required. From that time the suppuration is treated for two or three months with basilicon ointment. The patient may take during the same time moderate doses of iodide of potassium and should have a substantial diet. Furthermore, he should be in the open air as much as possible, employed in gardening, etc., only taking care to avoid exposure to extreme heat. Baths should be forbidden, as conducing to cerebral congestion.

During fifteen years this treatment has been employed by Meyer, in the cases of seventeen general paralytics, two of whom remain under treatment. Eight of the fifteen were cured, and their cases are given in the memoir. One of them, however, suffered a relapse after two years.

The periosteum may be affected and there may occur exfoliations, more or less considerable of the bone. The author met with this accident a number of times, but attaches to it no special importance. The loss of hair is readily concealed.

The good effects of this method are not to be accounted for by the irritation produced. In moderately insensible patients the pain lasts only some hours, up to the time when suppuration takes place. Meyer considers rather that there is a revulsive action, regulating the sanguine and lymphatic circulation and putting an end to stases and accelerating the absorption of exudations. It is certain that when the suppuration becomes plentiful the patients are relieved of the sense of intra-cranial pressure which had so much incommoded them.

In this connection we may allude to another abstract, in the *Revue des Sci. Med.*, of a paper by Sander, read before the Medico-Psychological Society of Berlin, May, 1876, in which the author considers some of the perils attending this treatment, in some cases, such as extended inflammation of the bone, hyperostoses, and local pachymeningitis. Still it might, with the results announced by Meyer, be amply justified in general paralysis.

DIFFERENCES BETWEEN DATURINE AND ATROPOINE.—It is well known that Planta regarded these two alkaloids as chemically identical, since he thought their chemical compositions identical as well as their reactions and physiological properties. This view has been generally accepted, in spite of the memoirs of Schreiff, Lemaitre, Bouchardat, demonstrating that important differences existed between what are called belladonna preparations. Von

Hager attributed the greater activity of English atropine to the presence of a great quantity of impurities, under the form of belladonna. Erhardt, nevertheless, has shown that atropine and daturine crystallize differently, and Pohl now shows that their optic properties are not the same, daturine turning the plane of polarization to the left, while atropine makes no change. Besides this their reactions are not identical, the salts of atropine are precipitated by the chloride of platinum, but those of daturine are not. The reverse is the case with picric acid which precipitates only the daturine salts. For these reasons Pohl regards these substances as altogether distinct from one another. (*Deutsche Zeitschr. f. prakt. Med.*, Oct. 27, 1877.) *Bull. Gen. de Thérapeutique*, Jan. 30.

GALVANIZATION OF THE SYMPATHETIC.—G. Fischer, *Deutsches Archiv f. klin. Medicin*, XX., 175 (abstr. in *Centralblatt f. d. med. Wissenschaft*, No. 7). By a series of experiments, and the utilization of a favorable opportunity to experiment directly upon two men, the author sought to extend and verify some previous statements of his own in an earlier memoir. He came then to the conclusion that, while, indeed, it is possible to influence the intracranial circulation by the electric current applied through the skin of the neck, yet that the sympathetic, to which this result was usually attributed, was not responsible, and that instead of calling this method "galvanization of the sympathetic" it would be more correct to call it simply galvanization of the neck. Alterations in the blood supply of the brain may be produced, but this result depends neither upon the direction of the current, or upon polar action, and is even more decided with the faradic current. In galvanization of the neck not only are the sensory cutaneous nerves irritated, but also the centripetal vagus fibres, so that the action on the brain is an indirect one, due chiefly to excitation of the fibres of the pneumogastric. The sympathetic ganglia are not irritable otherwise than the main cervical bundles of the sympathetic, and as regards this last, the author discovered nothing in his observations that would justify the opinion that the main cord of the sympathetic reacts like a motor nerve to the constant current.

Though this method is incorrectly named, still we may use it, as we do many others empirically found of use, but not physiologically explained.

Among other articles on the Therapeutics of the Nervous System and Mind, we may mention the following :

MACKENZIE, The Physiological Action of Aconite, *Practitioner* (cont. art.) ; BEARD, Hygiene of Chronic Nervous Diseases, *Proc. Med. Soc. County of Kings*, April ; OHMS, Muriate of Pilocarpine, *St. Petersb. Med. Wochensch.*, No. 6, Feb. 23 ; MAGNAN, Influence of Alcohol on Mental Maladies, *Quart. Journal of Inebriety*, March ; DAY, Curability of Inebriety, *Ibid.* ; BRECHER-MIN, The Physiological Action of Bromide of Ammonium, *Phil. Med. Times*, March 30 ; ROCKWELL, On the Use of Electricity in the Treatment of Epilepsy, *N. Y. Med. Record*, April 6 ; RINGER and MURRELL, On the Use of Physostigma in some Nervous Affections, *Lancet (Am. Repr.)*, March ; VENTURI, On the Action of the Salts of Quinine in Intermittent Insanity, *Rivista Sperimentale*, III., III. and IV.